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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/944,605	09/04/2001	Boris Kesil		1299

7590 05/31/2005

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EXAMINER

CHIN, PAUL T

ART UNIT PAPER NUMBER

3652

DATE MAILED: 05/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/944,605

Applicant(s)

KESIL ET AL.

Examiner

PAUL T. CHIN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 February 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21,35-41 and 49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21,35-41 and 49 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 September 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>9/4/2001</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of the species of Group I, readable on claims 1-21,35-41, and 49, in the reply filed on February 25, 2005, is acknowledged. The traversal is on the ground(s) that "Fig. 8 distinctly shows a base 44 which other species do not disclose". This is not found persuasive because Figure 1 clearly shows a base plate (44) wherein a finger or bar (22) is attached. Moreover, figures 2 and 3 show light receivers (52B,54B) which are not attached to the base plate. The narrow light beams B3 having a thickness about 1 mm in diameter for penetration into slot of a wafer cassette (see page 12, last paragraph). It appears that the light receivers are attached to the slots of cassette. If the light receivers are attached to the upper surface of the base plate (44) as applicant argues, there is no need to let the light beam to penetrate the slot of a cassette. Figure 8 clearly shows the light receivers (52B,54B) attached to the base plate. Applicant further argues that "Fig. 12 is the same as other species". The argument is not persuasive because the figure shows a fork shape member (33,32B,47B) being attached to the arm, which none of the other species does not disclose. Therefore, the figures 8 and 12 are distinctly patentable. **The requirement is still deemed proper and is therefore made FINAL.** Note that applicant cancels claims 22-34,42-46,50, and 51. Claims 47 and 48 are withdrawn from further consideration because the claims depend on the canceled claims 22 and 26.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on September 4, 2001, was filed and the submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner. However, the patent number 5,510,920 is crossed out and not considered because it is not closely related to the

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application. Moreover, the listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper."

Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "mounting plate attached to a robot" (claim 21) and "a limit switch" (claim 11) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

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4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "78" (connected line), "82" (guide slot), "44A" (page 17, line 11, not shown in figure 8). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 2-12, 15-20, 35-41, and 49 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The exact meaning of the recited phrase "a second gripping postlocated on the side of said gripping mechanism opposite to said first gripping post and on both sides with respect to said longitudinal axis" (claim 2) is not clearly understood. The claim is vague and indefinite as to the phrases "the side of the gripping mechanism" (not previously recited) and "on both sides" are not clearly defined. Moreover, there are many errors in claims 35-41. Note that applicant substitute the independent claim "28" with another independent claim 1, which appears to cause many errors. For instance, there is no

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antecedent basis for "said first linking member", "said second linking member" (claim 35). Applicant is strongly encouraged to thoroughly check to make sure that the claims particularly point out and distinctly recite the subject matter which applicant regards as the invention.

7. Regarding claims 6 and 9, the word "means" is preceded by the word(s) "said main spring means" in an attempt to use a "means" clause to recite a claim element as a means for performing a specified function. However, since no function is specified by the word(s) preceding "means," it is impossible to determine the equivalents of the element, as required by 35 U.S.C. 112, sixth paragraph. See *Ex parte Klumb*, 159 USPQ 694 (Bd. App. 1967).

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1 and 2, as best understood, are rejected under 35 U.S.C. 102(e) as being anticipated by Kobayashi et al. (6,216,883).

Kobayashi et al. (6,216,883) discloses a wafer gripping device comprising a mounting plate (12), a linear precision drive means (10), an air cylinder, at least three gripping posts or rollers having a first gripping post (6) aligned with a longitudinal axis, second and third posts (2,3), a gripping force control means having a sliding member (7) and a spring means (8,9).

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10. Claims 1-3, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Lee et al. (5,810,935).

Lee et al. (5,810,935) discloses a wafer gripping device comprising a mounting plate (100), a linear precision drive means (130), at least three gripping posts or rollers (120,120,120), a gripping force control means having a sliding member (131) and a spring means (140) (Fig. 1b), a coil spring. Lee also shows a first linking member (102), a second linking member (110) and a third linking member wherein the second and third linking members are substantially pivotally connected.

11. Claims 1,2, and 21, as best understood, are rejected under 35 U.S.C. 102(e) as being anticipated by Todorov et al. (6,435,807).

Todorov et al. (6,435,807) discloses a wafer gripping device comprising a mounting plate (28), a linear precision drive means (41), a servo motor, at least three gripping posts (40,38,38) having a first gripping post (40) aligned with a longitudinal axis, second and third posts (38,38), a gripping force control means having a sliding member (44). The reference also shows a second post having first and second rollers (36,38) and a third post having third and fourth rollers (36,38) (see Fig. 3).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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13. Claims 4-6 and 21, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. (5,810,935) in view of Todorov et al. (6,435,807).

Lee et al. (5,810,935), as presented in section 10 above, does not show a motor.

However, Todorov et al. (6,435,807) teaches a motor 41 to actuate the gripper.

Accordingly, it would have been obvious to those skilled in the art to provide a servo motor (to replace a solenoid) on the Lee et al. (5,810,935) as taught by Todorov et al. (6,435,807) to grip a wafer.

14. Claims 7-12, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. (5,810,935) and Todorov et al. (6,435,807), as applied to claims 1 and 4, and in further in view of Hosoda et al. (4,715,637).

The modified Lee et al. (5,810,935), as presented in section above, does not show a sensor for measuring a compression and a limit switch. However, Hosoda et al.

(4,715,637) teaches a gripper attached with different springs (see figs. 5-12) to provide pressure on a wafer and the grippers are attached to a switch (7) and a power source (8). Accordingly, it would have been obvious to those skilled in the art to provide a pressure measurable spring with a switch on the Lee et al. (5,810,935) as taught by Hosoda et al. (4,715,637) to provide a measurable gripping force.

15. Claims 13-20, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. (5,810,935) in view of Bacchi et al. (6,256,555) (see IDS).

Lee et al. (5,810,935), as presented in section 10 above, does not show a sensor means on each gripping post. However, Bacchi et al. (6,256,555) teaches a sensor means (Figs. 1-7) to align the wafer accurately. Accordingly, it would have been obvious to

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those skilled in the art to provide a sensor means on each gripping post of the Lee et al. (5,810,935) as taught by Bacchi et al. (6,256,555) to accurately align the wafer.

16. Claims 13 and 14, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Todorov et al. (6,435,807) in view of Bacchi et al. (6,256,555).

Todorov et al. (6,435,807) Lee et al. (5,810,935), as presented in section 11 above, does not show a sensor means on each gripping post. However, Bacchi et al. (6,256,555) teaches a sensor means (Figs. 1-7) to align the wafer accurately. Accordingly, it would have been obvious to those skilled in the art to provide a sensor means on each gripping post of the Todorov et al. (6,435,807) as taught by Bacchi et al. (6,256,555) to accurately align the wafer.

Allowable Subject Matter

17. Claims 35-41 and 49 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims. Note that applicant must clearly point out and distinctly claim the subject matter which applicant regards as the invention (see section 6).

Conclusion

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Yokota et al. (6,623,235) discloses a robotic arm gripping device comprising a wafer blade, a plurality of rollers (42,43), an actuator (108), a motor, and a mounting plate (34).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PAUL T. CHIN whose telephone number is (571) 272-6922. The examiner can normally be reached on MON-THURS (7:30 -6:00 PM).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, EILEEN LILLIS can be reached on (571) 272-6928. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Paul Chin", with a stylized flourish at the end.

PAUL T. CHIN
Examiner
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